# **NGUYEN Quang-Duy**

**D** 0000-0002-3517-0945

(+33) 7 53 97 25 47

☑ quang-duy.nguyen@cea.fr

@ https://w3id.org/people/quang-duy.nguyen/



#### Education

### 2017 – 2020 PhD in Computer Science

École Doctorale des Sciences Pour l'Ingénieur, University Clermont-Auvergne, France UR TSCF, MathNUM departement, INRAE (Irstea), Clermont-Ferrand, France *PhD defense : 16/07/2020* 

### 2014 – 2015 Master 2 in Networks and Communicating Systems

University Claude Bernard Lyon I, France

Note: 15.31/20.00 - Rank: 1/60

#### 2013 – 2014 Master 1 in Computer Science

Institute Francophone for Information Technology (IFI), Hanoi, Vietnam

Note: 14.20/20.00

#### 2007 – 2012 Engineer of Information Technology in Computer Engineering

Hanoi University of Science and Technology, Vietnam

Note: 14.96/20.00

# **Experience**

#### 12/2021 – present **Postdoctoral Researcher**

LSEA laboratory, CEA List, Palaiseau, France

Project: Tools and methods for system complex engineering in Industrie 4.0 Keywords: Industrie 4.0, LocalSEA testbed, OPC UA, TurtleBot3, Niryo, ROS

## 10/2020 - 09/2021 Postdoctoral Researcher

LTCI laboratory, Télécom-Paris, Palaiseau, France

Project : OPC-UA PubSub for Caméléon

Keywords: IIoT, SNCF, OPC UA, PubSub, Embedded System, Zephyr OS, C

#### 01/2017 - 07/2020 **PhD Student**

UR TSCF, MathNUM departement, INRAE

Project : ConnecSens, AgroTechnoPôle

Keywords: Agriculture, IoT, Ontology, Reasoning, OWL, SWRL, Python

#### 08/2016 - 10/2016 Research Engineer

Programmation, Networks and Systems team, LaBRI laboratory, Bordeaux, France

Project : Le Palais de la Mémoire

Keywords: Sounds, Method of Loci, Distributed Algorithms, Beacons, BLE, Android

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Networks team, ICube laboratory, Strasbourg, France

Project : FIT/IoT-lab

Keywords: Multihoming, Mobility, Contiki, TelosB, Python, C/C++

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Institute Francophone for Information Technology

Project : Modeling and diffusion of mobile users profile

Keywords: Participative Detection, Modeling, Android, GAMA Platform, GAML

# Publications\*

[Cl.6] **Quang-Duy Nguyen**, Patrick Bellot, and Pierre-Yves Petton, "An OPC UA PubSub Implementation Approach for Memory-Constrained Sensor Devices", Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE), 06/2022

[CI.5] **Quang-Duy Nguyen**, Fadwa Tmar, Yining Huang, and Saadia Dhouib, "Early Lessons Learned from the Development of a Local OPC UA-based Robotic Testbed for Research", Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE), 06/2022

Summary

First-authored items : 8/11

Citations: 34 H-index: 4 I-index: 1

Items related to IoT/IIoT: 6 Items related to Ontology: 5 Items related to OPC UA: 3 Items related to Robotics: 1

[CI.4] Quang-Duy Nguyen, Saadia Dhouib, Jean-Pierre Chanet, and Patrick Bellot, "Towards a Web-of-Things Approach for OPC UA Field Device Discovery in the Industrial IoT", Proceedings of the 18th IEEE International Conference on Factory Communication Systems (WFCS), 04/2022

[Cl.3] Quang-Duy Nguyen, Catherine Roussey, Patrick Bellot, and Jean-Pierre Chanet, "Stack of Services for Context-Aware Systems: An Internet-Of-Things System Design Approach", Proceedings of the 15th IEEE International Conference on Computing and Communication Technologies (RIVF), 08/2021

[JI.2] Julian Eduardo Plazas, Sandro Bimonte, Christophe de Vaulx, Michel Schneider, **Quang-Duy Nguyen**, Jean-Pierre Chanet, Hongling Shi, Kun Mean Hou, and Juan Carlos Corrales, "A Conceptual Data Model and its Automatic Implementation for IoT-Based BI Applications: UML Profile and MDA Approach", IEEE Internet of Things Journal, 10/2020

[T.1] Quang-Duy Nguyen, "Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0", PhD thesis, University Clermont-Auvergne, 07/2020

[CF.2] **Quang-Duy Nguyen**, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, Jean-Pierre Chanet, and Camille Noûs, "CASO et IRRIG deux ontologies pour le développement de systèmes contextuels : cas d'usage sur l'automatisation de l'irrigation", Proceedings of le 31es journées francophones d'Ingénierie des Connaissances (IC), 07/2020

[Jl.1] Quang-Duy Nguyen, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, and Jean-Pierre Chanet, "Development Experience of a Context-Aware System for Smart Irrigation using CASO and IRRIG ontologies", Special Issue "Semantic Technologies Applied to Agriculture", MDPI Applied Science Journal, 2020.

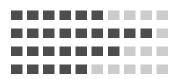
[Cl.2] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, "Ontological Requirement Specification for Smart Irrigation Systems: A SOSA/SSN and SAREF Comparison", Proceedings of the 9th International Semantic Sensor Networks Workshop, 17th International Semantic Web Conference (ISWC), 10/2018

[CF.1] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, "Besoins ontologiques d'un système d'irrigation intelligent : Comparaison entre SSN et SAREF", Proceedings of le 29es journées francophones d'Ingénierie des Connaissances (IC), 07/2020

[Cl.1] Quang-Duy Nguyen, Julien Montavont, Nicolas Montavont, and Thomas Noël, "RPL Border Router Redundancy in the Internet of Things", Proceedings of the 15th International Conference on Ad-Hoc Networks and Wireless (Adhoc-Now), 07/2016.

# Research Skills

Project Management System Implementation Scientific Writing Presentation

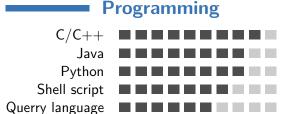


# Linguistic

French English Vietnamese

# **Technical Skills**

Development Process Mini-Waterfall, LOT, Agile
Operating System Linux, Zephyr, Contiki, Android
Network Protocol TCP/IP, OPC UA PubSub, MQTT
Vocabulary SOSA/SSN, CASO, IRRIG, AAS
Tool Protégé, GIT, Latex, Wireshark



## References

- **Prof. Patrick BELLOT**, Director of CCN team, LCTI laboratory, INFRES department, Télécom-Paris Project manager of the project "OPC-UA PubSub for Caméléon"

  ☑ patrick.bellot@telecom-paris.fr
- **Dr. Jean-Pierre CHANET**, Director of UR TSCF, MathNUM department, INRAE

  Director of the thesis "Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0"

  ☑ jean-pierre.chanet@inrae.fr